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# STOPPING AIR POLLUTION AT ITS SOURCE

# CAP

## Clean Air Program

Responses To Public Comments:
CAP Discussion Paper

Ontario
Environment
Environnement

# CAP

## Clean Air Program

## CAP DISCUSSION PAPER
## PUBLIC COMMENTS

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# CAP DISCUSSION PAPER

## "Stopping Air Pollution at its Source"

## PUBLIC COMMENTS

In November 1987, the Ministry of the Environment released a discussion paper on a new Clean Air Program for Ontario entitled "Stopping Air Pollution at its Source." During a 90-day comment period a series of public and special interest group meetings were held throughout the Province and wide-ranging written submissions were made to the Minister. The comments received during the review period are summarized below and an indication as to how they have been incorporated into the draft regulation is provided.

The draft regulation of the Clean Air Program contains an overview document accompanied by several appendices which describe procedures and protocols in detail. The appendices are referenced and described below and in each volume. Copies of the documents can be obtained separately or as a package from:

Environment Ontario
Public Information Centre
135 St. Clair Avenue West
Toronto, Ontario
M4V 1P5. Telephone Number (416) 323-4321

The Ministry believes that asking the public for its opinions - and listening to them - is essential to the development of programs which are effective in protecting our environment. Therefore, province-wide public consultation activities are being planned over a 180-day period. During this time, the Ministry will hold meetings to explain its Clean Air Program and to seek out the views of interested parties.

All members of the public are encouraged to participate in the public consultation process and to respond to the Ministry's request for comments. The comments received will then be taken into account as the program is finalized.

# Summary of CAP Documentation

The Clean Air Program Draft Regulation outlines the Ontario Ministry of the Environment's proposals for regulating stationary air emission sources in the Province. The contents of the Draft Regulation are presented in an overview document and three volumes of appendices. An additional volume summarizes the comments received by the Ministry on its 1987 Discussion Paper - "Stopping Air Pollution At Its Source." In order to assist in the reading of the documents the following summary of the contents of the various volumes is presented:

## Draft Regulation Overview:

In this volume the key elements of the Clean Air Program are identified, and the way in which the Ministry is proposing that they should be integrated into a new regulatory package is specified.

## Responses to Public Comments:

Comments received at public meetings, meetings with special interest groups, an open workshop, and in submissions as a result of the Discussion Paper are summarized, and references are provided as to how and where the comments have been incorporated into the Draft Regulation or reasons are supplied as to why this has not been possible.

## Appendices 1 and 2

*Appendix 1* - **DEFINITIONS**

Technical terms used in the overview document and in the other appendices are defined to facilitate the interpretation of these documents.

*Appendix 2* - **SOURCE REGISTRATION**

*Appendix 2-1* - **SOURCE REGISTRATION RATIONALE**

The purpose and intent of the proposed source registration scheme are identified.

*Appendix 2-2* - **SOURCE REGISTRATION LEGISLATION**

The anticipated scope of the proposed source registration scheme is outlined. The applicability of source registration, and the requirements on owners and operators, including thresholds, the proposed treatment of mixtures and trade names, and proposed exemptions are identified.

*Appendix 2-3* - **LISTS OF CHEMICAL SUBSTANCES FOR SOURCE REGISTRATION**

The list of chemicals which owners or operators will be required to consider when filing a source registration statement is provided. This list is presented (1) in alphabetical order, (2) by CAS number order with synonyms, and (3) by synonyms in alphabetical order.

*Appendix 2-4* - **CANADIAN STANDARD INDUSTRIAL CLASSIFICATION CODES**

A listing of the Canadian Standard Industrial Classification Codes accompanies the Lists of Chemical Substances for Source Registration which it is proposed should be dealt with in the initial phase, the second phase and the third phase.

*Appendix 2-5* - **SAMPLE REGISTRATION FORM**

A sample registration form is provided.

*Appendix 2-6* - **SAMPLE INSTRUCTIONS**

A sample of the instructions (from U.S. E.P.A. SARA Title III Section 313) is supplied.

*Appendix 2-7* - **SAMPLE EMISSION CROSS-REFERENCE**

A sample of the Emission Cross-Reference and Section 313 Final Rule (which includes a sample method for estimating releases) is provided.

## Appendices 3-7

*Appendix 3* - **IMPLEMENTATION OF THE CLEAN AIR PROGRAM**

The manner in which it is proposed to implement the Clean Air Program is provided.

*Appendix 4* - **APPROVALS**

The details of the proposed approvals mechanisms under the Clean Air Program are provided.

*Appendix 4-1* - **APPROVALS PROCESS**

The proposed requirements of the Ministry's air approvals process, under which certificates of approval to construct and operate will be issued, are specified together with basic information requirements for the process, and the manner in which it is proposed the process should operate.

*Appendix 4-2* - **GENERIC CERTIFICATES OF APPROVAL**

The proposals to handle the granting of certificates of approval to sources which have minor impact on the environment, and have common characteristics which permit generic or class control limitations to be employed, are itemized. An example based on U.S. state regulations for dry-cleaning establishments is appended.

*Appendix 4-3* - **EXPERIMENTAL FACILITIES**

Proposed measures for handling pilot plants, laboratories and prototypes are identified.

*Appendix 5* - **SMALL AND SPECIAL SOURCES**

The Ministry's proposals for handling the approval of small and special sources are described.

*Appendix 5-1* - **SMALL SOURCE DESIGNATION LIMITS**

The Ministry's suggested methodology for defining small sources, is provided, accompanied by a list of suggested small source designation limits for chemicals included in the source registration process.

*Appendix 5-2* - **CODES OF PRACTICE - CONCEPTUAL OUTLINE**

Codes of Practice are suggested as a mechanism for handling the regulation of certain types of sources. These include sources not amenable to conventional control technologies, defined as necessary or unavoidable and/or conducted infrequently or for short time periods at a particular location. The general conditions which will be included in codes of practice and a sample for open burning are provided.

*Appendix 6* - **CONTAMINANT CLASSIFICATION PROCESS AND AIR QUALITY STANDARDS**

The methodologies which are proposed for the contaminant classification process and the setting of air quality standards are discussed.

*Appendix 6-1* - **OVERVIEW: CLASSIFICATION, REGULATORY STRATEGIES AND AIR QUALITY STANDARDS**

The role of classification and air quality standards in the Clean Air Program; definition of a target list of chemicals; the classification methods which will be used; features of the proposed "interim classification" system, including a "public participation in classification process"; and the general characteristics of the proposed system for defining regulatory strategies, criteria and standards are summarized.

*Appendix 6-2* - **THE CLEAN AIR PROGRAM (CAP) GENERIC CLASSIFICATION PROCESS**

The types of information which will be considered in the process of classifying contaminants are identified.

*Appendix 6-3* - **MINISTRY OF THE ENVIRONMENT CHEMICAL LEVEL-OF-CONCERN CLASSIFICATION PROCESS**

Details of the proposed Ministry of the Environment process for classifying contaminants are supplied. Three methods are identified: development of (1) "detailed" or (2) "preliminary" dossiers together with the use of the MOE detailed scoring system; and (3) the use of various jurisdictional and property information.

*Appendix 6-4* - **PROPOSED INTERIM LIST OF CONTAMINANTS CLASSIFIED ON THE BASIS OF LEVEL-OF-CONCERN**

Included in this Appendix are a proposed classification of contaminants listed as emissions in certificates of approval over recent years, and priority chemicals believed to be in use in Ontario which have been identified under the Canadian Environmental Protection Act or by other recognized jurisdictions as being of concern.

*Appendix 6-5* - **PART I: PUBLIC PARTICIPATION IN THE CLASSIFICATION PROCESS**

The process whereby the public, industry, and interested parties will be able to contribute to the classification of contaminants, is detailed.

*Appendix 6-5* - **PART 2: CHEMICAL DOSSIERS**

Details of the requirements concerning the submission of chemical dossiers are supplied, together with a manual describing the Chemical Evaluation Search and Retrieval System (CESARS) written by the Michigan Department of Natural Resources as part of a joint effort with the Province of Ontario.

*Appendix 6-6* - **REGULATORY STRATEGIES: THE DECISION PROCESS**

A three-tier approach which the Ministry of the Environment is considering in order to produce air quality standards and chemical specific regulatory strategies is discussed.

*Appendix 6-7* - **INTERIM AIR QUALITY STANDARDS**

The values which the Ministry is proposing to use in connection with the new modelling package in evaluating applications for certificates of approval are supplied. The lists are arranged according to the averaging period which will be used: 24 hour; 1 hour; 10 minute; irregular averaging times; and 1 year.

*Appendix 7* - **EMISSION LIMITS AND APPROVALS**

The Ministry's proposed mechanisms for setting and listing emission limits for use in the certificate of approval process are provided.

*Appendix 7-1* - **EMISSION LIMITS**

The emission limits for various processes which the Ministry is proposing should be appended to a final draft regulation and used in the certificate of approval process are discussed.

*Appendix 7-2* - **GUIDELINE FOR DETERMINATION OF EMISSION LIMITS**

The policies and requirements of the Ontario Ministry of the Environment used in setting emission limits under the Clean Air Program are documented.

*Appendix 7-3* - **THE EMISSION LIMIT-SETTING PROCESS**

The process for setting emission limits is outlined.

*Appendix 7-4* - **REQUIREMENTS FOR UPSETS, STARTUPS, SHUTDOWNS AND BYPASSES**

The conditions under which by-passing of air pollution control systems are not permitted are identified.

*Appendix 7-5* - **VISIBLE EMISSIONS**

The Ministry's proposals concerning visible emissions are provided together with U.S. E.P.A. Regulations on Standards of Performance for New Stationary Sources which will be used as a basis for proposed regulatory changes.

*Appendix 7-6* - **PUBLIC CONSULTATION PROVISIONS**

Proposed avenues for public discussion of emission limit setting and the issuance of certificates of approval are identified.

## Appendices 8-11

*Appendix 8* - **AIR QUALITY MODELLING**

An overview of the dispersion modelling requirements associated with the certificate of approval process is provided, including the manner in which the modelling should be applied.

*Appendix 8-1* - **A GENERAL USER'S GUIDE FOR SOURCE ASSESSMENT**

Details of the requirements concerning modelling are supplied.

*Appendix 8-2* - **DETAILED DESCRIPTION OF THE FULL MULTI-SOURCE AIR QUALITY MODELLING TECHNIQUE FOR CALCULATION OF LOCAL AIR CONCENTRATIONS**

The modelling package which the Ministry is proposing is described in detail complete with equations.

*Appendix 8-3* - **MODELLING SCHEDULE - METHODOLOGY FOR THE DETERMINATION OF METEOROLOGICAL PARAMETERS REQUIRED FOR THE FULL AIR QUALITY MODEL CALCULATIONS.**

The process for determining the meteorological inputs to the models is described.

*Appendix 8-4* - **A USER'S GUIDE TO THE AIR QUALITY MODELLING SOFTWARE**

A guide is provided to facilitate the running of the computer programs associated with the dispersion modelling package.

*Appendix 8-5* - **SUPPLEMENTARY CONTROL PROGRAMS**

The conditions under which the Ministry is proposing that supplementary control programs should be utilized under CAP are identified.

*Appendix 9* - **SOURCE TESTING**

The general provisions which it is proposed should govern source testing programs under the revised regulatory structure are supplied.

*Appendix 9-1* - **SOURCE TESTING CODE**

Ontario's source testing code, which is under revision, is referenced. It is proposed that the revised version of this code will be the standard reference for use with the revised regulation.

*Appendix 9-2* - **SOURCE TESTING METHODOLOGIES IN OTHER JURISDICTIONS**

A list of reference test methods from the U.S., which it is proposed should be used in Ontario, is supplied.

*Appendix 10* - **AMBIENT AIR MONITORING**

The general requirements concerning ambient air monitoring are identified.

*Appendix 10-1* - **AMBIENT AIR MONITORING APPROVED SAMPLING AND ANALYTICAL METHODS**

The sampling and analytical methods approved by the Ministry for pre-operational and post startup ambient air monitoring are summarized.

*Appendix 10-2* - **ASSESSING THE IMPACT OF AIRBORNE CONTAMINANTS ON SOIL AND TERRESTRIAL VEGETATION**

The Ministry's methodology for evaluating the effect of airborne contaminants on soils and vegetation are detailed as a standard measuring/assessment technique.

*Appendix 11* - **QUALITY ASSURANCE FOR THE CLEAN AIR PROGRAM**

The general quality assurance requirements under the Clean Air Program concerning: continuous ambient air monitoring activities; continuous source emission monitoring activities; discrete ambient air monitoring activities; and discrete source emission monitoring activities are discussed

# PUBLIC COMMENTS AND MINISTRY RESPONSES

A large number of individual comments impacting on different portions of the proposed regulation were received. They have been divided into subject areas as follows:

1. SCOPE OF REGULATION
2. GENERAL CONCERNS
3. PUBLIC PARTICIPATION
4. IMPLEMENTATION PROCESS
5. COMPLIANCE WITH THE REGULATION
6. COST CONCERNS
7. PROCESS FOR CLASSIFYING LEVEL OF CONCERN
8. COMMUNITY STANDARD SETTING
9. CONTROL TECHNOLOGY REQUIREMENTS
10. DETERMINATION OF ALLOWABLE EMISSION LIMITS AND OPERATIONAL PROCEDURES
11. MODELLING
12. CERTIFICATES OF APPROVAL
13. CONTINUOUS PROCESS/EMISSION MONITORING AND AMBIENT MONITORING
14. VISIBLE EMISSIONS
15. *De minimis* SMALL SOURCE DESIGNATION LIMITS

For each subject area all of the comments received have been summarized in the form of questions or suggestions. These are followed by a Ministry response.

## 1. SCOPE OF REGULATION

The public review of the CAP discussion paper consisted of 97 submissions, 23 public meetings, 16 meetings with industry, a workshop, and meetings with three other government groups.

Many of the written submissions to the Minister and comments made at meetings supported the general concepts of the Clean Air Program (CAP) and the need to update the general air pollution regulation (Regulation 308). However, there were also submissions which did not support the program in its entirety, or offered only limited support for the proposals. Many comments from industry questioned the need for government involvement in specific areas, while the general public felt there should be greater involvement by the government. Consequently, many of the questions focused on why certain issues were, or were not, addressed.

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1.1. What are the goals of the Clean Air Program?

*The Clean Air Program has the following goals:*

- *to virtually eliminate air toxics;*
- *to control all stationary sources of emissions to the atmosphere in Ontario commensurate with the known or suspected hazard of the contaminants being emitted;*
- *to require ambient air standards are met throughout the province;*
- *to ensure that all significant (new and existing) sources of emissions to the atmosphere in the province comply with certificate of approval to operate.*

*In order to achieve these goals, the following items have been included in the Clean Air Program:*

- *systems for classifying contaminants according to their potential to impact the environment;*
- *a three-level system of emission control requirements which will be linked to the classification system to ensure that appropriate controls are employed;*
- *requirements for the issuance of certificates of approval to construct and operate, with the operational part renewable every 10 years;*

- *provisions to require the use of state-of-the-art dispersion models or their equivalent to estimate the impact of proposed emissions, taking account of existing ambient air quality;*

- *a process for reviewing the current point-of-impingement standards and converting them to ambient air standards, and to produce new standards;*

- *a program to ensure the registration of significant emissions to the environment;*

- *revisions to the existing procedures concerning the granting of air approvals;*

- *a phasing-in mechanism based on the contaminant evaluation scheme;*

- *specific measures to handle small sources, including the applicability of control technology requirements, the development of class certificates of approval, special requirements for small laboratories, pilot plants and prototypes, and codes of practice;*

- *monitoring and quality assurance requirements.*

1.2 Why are automotive sources, landfill sites, road dusts, soils and various types of fugitive emissions not included?

*Automobiles are covered by Regulation 311 which is currently under separate review. Landfills, roads, soils and fugitive emissions are included in the modelling requirements of the CAP program and requirements for control of fugitive sources may be stated in future on certificates of approval to operate.*

*The proposed regulation will not apply to sources under specific legislation and regulations such as: the Farm Practices Act, 1988; the Pesticides Act R.S.O. 1980; the Countdown Acid Rain Regulations (O. Regs. 660/85,661/85,281/87,663/85).*

1.3 Global issues like the greenhouse effect and destruction of the ozone layer should be addressed.

*The development of a strategy for dealing with global warming is an interministerial activity. A green paper was issued by the Ministry of Energy for public discussion in April 1990 entitled "Global Warming: Toward a Strategy for Ontario". A further paper outlining government policy in this area is in preparation.*

*The Ministry of the Environment will take global effects into account in the establishment of Levels of Concern and in the approval of control technology for contaminants such as chlorofluorocarbons (CFCs), nitrous oxide, methane, and tropospheric ozone, contaminants thought to be contributing to the greenhouse effect. It should be noted that global issues are also being addressed through other Ministry of the Environment programs. Bill 218*

*which empowers these programs received Royal Assent on June 2, 1989 and is now formally Part V-A of the Environmental Protection Act. The intent of these measures is to phase out ozone-depleting substances known as chlorofluorocarbons (CFCs). The CFC law empowers the province to ban categories of uses for ozone-depleting substances. Two sets of regulations have been developed, controlling the use of CFCs in aerosols, rigid foam packaging, insulation, and encouraging recycling of CFCs. For the summers of 1989 and 1990, another regulation has required all Ontario refineries to deliver gasoline formulated with lower quantities of volatile organic compounds (VOCs). These changes will reduce smog by reducing the evaporation of ozone-forming VOCs from filling station pumps and automobile fuel tanks.*

1.4 The goals of the Regulation may not be practically attainable.

*The goals of CAP (outlined in 1.1) require an extensive long-term program be put in place in manageable phases to ensure success. The program outlined in the Draft Regulation Overview, will phase in consistent reductions in emissions over the next 10 years, dealing with contaminants of greatest concern first. The regulation will be developed in consultation with all affected parties.*

1.5 Land use conflicts are not addressed.

*Land use conflicts are not addressed directly in the Clean Air Program, but through the program the Ministry intends to: (1) control emissions based on their known effects; (2) employ state-of-the-art modelling in the estimation of effects; and (3) require renewal of the certificate of approval to reflect up-to-date developments in emission control technology.*

1.6 Odours are not addressed.

*Odours will be addressed, in a manner similar to other contaminants, by setting standards which reflect the odour impact of the contaminant or mixture of contaminants (including the time period required for an effect to be noted.) The proposed method for setting standards is given in Appendix 6-6 of the draft Clean Air Program and a list of interim standards with averaging times based on effects is supplied.*

## 2. GENERAL CONCERNS

Although most of the submissions supported the general concepts of the Clean Air Program and the need to update the general air pollution regulation, some did not, or offered only limited support. Items in the submissions concerning the goals of the program included statements on:

- the lack of a demonstrated need to employ radical changes;
- the belief that technical changes to the existing legislation could cope with the majority of observed problems;
- suspicions that suggested changes were being made merely because of technological innovations;
- perceptions that the government was introducing the proposals in order to appear as the most stringent agency;
- the recognition of needs other than environmental concerns which governments and industry must meet, and other environmental programs which were demanding attention from stakeholders.

These general comments are addressed in the statement of goals in 1.1. Other general comments and questions which are not dealt with in the statement of program goals are given below with responses.

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2.1 How will confidentiality of information be guaranteed?

*The Freedom of Information and Protection of Individual Privacy Act states that all information under government control should be available to the public, unless the public's access to that information is specifically restricted by the terms of the Act. With respect to third party information, the Act states, "A head shall refuse to disclose a record that reveals a trade secret or scientific, technical, commercial, financial or labour relations information, supplied in confidence implicitly or explicitly, where the disclosure could reasonably be expected to:*

*(a) prejudice significantly the competitive position or interfere significantly with the contractual or other negotiations of a person, group of persons, or organization;*

*(b) result in similar information no longer being supplied to the institution where it is in the public interest that similar information continue to be so supplied; or*

*(c) result in undue loss or gain to any person, group, committee or financial institution or agency.*

*The Clean Air Program will follow this legislation.*

2.2 The Ministry should provide an incentive for exceptional pollution control.

*The Ministry encourages the development of innovative methods of control through various programs including those research programs administered by the Ministry's Research and Technology Branch.*

2.3 The need for bottom-of-the-stack controls has not been justified.

*The Ministry of the Environment is committed by way of its Mission Statement:*

> *"to protect and enhance the quality of the environment for the present and future well-being of the people of Ontario and of the ecosystems in which they live."*

*As part of this commitment one of the fundamental goals of CAP is to have controls on all stationary sources of emissions to the atmosphere, commensurate with the known or suspected hazard of the contaminants being emitted.*

2.4 Economics should play a greater role in the process.

*Economic factors will be considered in determining emission limit requirements for both Level 2 and Level 3 contaminants. For Level 1 contaminants, economic factors will be examined only in the context of implementation and will not be considered in establishing the emission limit.*

*Among the economic factors which will be examined, are financial performance indicators, outlook of the industry sector, market structure, competitiveness and employment impacts.*

2.5 What are the anticipated enforcement measures?

*A certificate of approval to operate will include conditions such as maximum emission rate, operating parameters, and monitoring requirements. Breaches of these conditions will constitute grounds for investigation leading to possible charges.*

2.6 Concerns were expressed over conflict between the proposed regulation and other regulations and legislation.

*The regulatory package which is being produced under CAP will be general in nature. As such it will not take precedence over any specific regulations.*

## 3. PUBLIC PARTICIPATION

The issue of public participation in standard setting and in the certificate of approval process was raised in the CAP Discussion Paper, and numerous comments were received. Submissions contained overwhelming, general support for wider participation in standard setting. However, differences arose with respect to more specific questions: at what stage should public participation begin; who represents the public; and what role will the public have? Public interest groups favoured representation from concerned citizens, environmental groups and regional local representatives whereas industry, in general, favoured representation from industrial sector-based subcommittees, academia and from consultants. Some industrial comments expressed the view that public representatives should be confined to reviewing the standards once they have been developed, leaving the actual standard development to those with the scientific knowledge and skill. They were concerned about public participation holding up the process of reviewing information and determining standards, causing delays in the process of granting certificates of approval. It was also suggested that industrial representation begin before the proposals become law. Some of the respondents specifically expressed an interest in ensuring an ongoing consultation process to guide future policies and regulations related to the reduction of toxics in air.

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3.1 More attention should be paid to public input at every step of the regulation development and implementation process.

*The Ministry of the Environment will continue discussions with all interested parties in the development of the regulation and in its subsequent implementation. The Draft Regulation of the Clean Air Program will be open for discussion for a period of 180 days, during which a public consultation process will occur. The Ministry welcomes input and will review it for potential incorporation into the final regulation. To handle any issues which may remain unresolved following the Discussion Process, it is proposed that an ad hoc committee should be formed to advise the Minister with representatives from broad-based public interest groups, industry, academia and other Ministries, and other levels of government. Comment during the development of case-specific limits will be guided by the Ministry's policy of public consultation which is available from the Communications Branch of the Ministry of the Environment.*

3.2 The public should be represented on the Environmental Air Standard Setting Committee (EASSC).

*In the CAP Draft Regulation (Appendix 6-6) the Ministry has proposed a more comprehensive process for setting air quality standards and chemical-specific regulatory strategies, including mechanisms for consultation. EASSC will be replaced by an interministerial technical committee which will prepare technical documents and set interim air quality standards. The technical documents and interim standards will be submitted to the Ministry's 12-member Advisory Committee on Environmental Standards (ACES), which has*

*widely based membership, including members of the public, for review. In addition, ACES will be asked to undertake public consultation before presenting its recommendations to the Minister to give the people of Ontario a regular voice in the formulation of the environmental standards and guidelines for the province.*

*In the classification of contaminants the Ministry has provided for revisions to existing Level of Concern classifications by any group or individual through submission of detailed information. The methods for collecting and processing the necessary data are detailed in Appendices 6-2 and 6-5. All classifications and revisions will both be subject to review by ACES.*

3.3 Extensive public input is required for the certificate of approval process.

*Public participation has been encouraged at several recent hearings concerned with the granting of certificates of approval. The Ministry of the Environment will consult with the public on the certificate of approval process, consistent with the Ministry policy on public consultation.*

3.4 Public participation will delay the process of reviewing information and determining standards for use on certificates of approval.

*The Ministry's new process for handling the development of standards and regulatory strategies will provide a vehicle for public input and review of new standards. Previous Ministry experience in involving the public in control orders has often resulted in a more comprehensive document with wider local acceptance.*

3.5 Public education programs are needed.

*The Ministry of the Environment has ongoing public education programs which will be amended to incorporate the products of CAP at the time the regulation is filed. In addition, the Ministry has developed a comprehensive public consultation plan. This will supply information to all parties, and provide opportunities to comment on government decisions. Environment Ontario regularly uses the following activities to support its public consultation goals: public meetings; open houses; workshops; public advisory committees and public liaison committees; public discussion papers and calls for submissions; and toll-free telephone lines.*

## 4. IMPLEMENTATION PROCESS

Of significance to any new program is the implementation plan employed. The CAP document proposed that the phasing in of requirements for new certificates of approval would take place over a number of years and would require a set of rules related to various topics, including:

- certificates of approval for new facilities and for facilities under construction;
- application of the proposals to existing facilities;
- control orders/Provincial Officers' reports;
- supplementary control programs;
- very small sources.

Contributors representing the public interest groups insisted that five years was too long in the case of Level 1 and Level 2 sources. One group stated that monetary penalties should be established to ensure compliance within this length of time.

Industry groups suggested that the entire program should be implemented over a long time period with analysis of the impacts of each stage. Industry-based comments unanimously expressed the opinion that a five-year phase-in period for Level 1 and Level 2 contaminants was unrealistic. A variety of reasons were provided supporting this position:

- the amount of work required to produce the toxicity classification system and the emission limitations;
- the equipment life-cycle which was identified by some companies as being anywhere from 10 to 20 years or more;
- the absence of adequate control technology to meet the types of requirements demanded;
- the amount of time it takes to get a major facility from the drawing board to the point of production.

In general, the questions which related to implementation of CAP addressed time-frames, phase-in approaches, and information flow.

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4.1 The MISA industrial sector approach to implementation should be utilized.

*The industrial sector approach to implementation is not as appropriate to air emission control as to water pollution control owing to the larger number of air pollution sources and similarity of control devices across sectors. However, the Ministry will be consulting with industrial sectors, and sectoral economics will be used in defining BACT for control purposes.*

4.2 A phased approach should be used based on contaminant priority.

*The Ministry of the Environment has proposed such an approach in the CAP Draft Regulation. It is the intention of the Ministry to use such an approach.*

4.3 The five-year phase-in period is too short.
4.4 The five-year phase-in period is too long.

*The Ministry of the Environment recognizes the major economic and resource impact the Clean Air Program will have. However, it believes the environmental benefits of the program will outweigh the costs. The Ministry has, therefore, opted for a phased implementation of the program which will bring immediate improvement in the air quality of Ontario and allow industries sufficient time to implement the necessary control technologies. The Ministry has proposed to phase in the program on an environmental priority basis, over 10 years. Operations falling within the first phase of the program will be required to apply for certificates of approval to operate within two years of filing of the regulation and to have any required emission controls in place within a further two years. Assuming a 1991 filing date for the regulation, the first industries under the requirements of the new regulation would have been given five years' notice of the requirements.*

## 5. COMPLIANCE WITH THE REGULATION

The discussion document raised varied concerns about how compliance will be achieved and the results of non-compliance. In particular, the treatment of facilities which are deemed to be out-of-compliance and the rules which will apply in areas where existing ambient air quality is identified as being unsatisfactory, produced comments from a number of industry representatives and groups.

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5.1 In areas which are "out of compliance", how are existing source cutbacks apportioned, and how are new sources handled?

*Where areas of the Province have existing ambient air quality levels of a particular contaminant or contaminants in excess of air quality standards, a (Regional) Director may designate such areas as non-conforming with respect to those contaminants. The process of establishing the Non-Attainment Remedial Strategies (NARS) for a particular area will involve extensive public consultation with all affected stakeholders. The aim of the NARS will be establishment of a plan outlining what steps will be taken to achieve compliance with the air quality standards over time, including measures to be taken in addressing existing sources and dealing with proposals for new sources.*

*New and existing sources in these areas will be required to follow the measures outlined in the NARS when applying for new or renewed certificates of approval. Where air quality exceeds one or more standards, but the NARS has not yet been established, two situations may arise. For existing facilities or sources, proponents applying for approvals will have to demonstrate that all emission limits relevant for their activities under CAP will be met, and that there will be a net improvement in air quality due to the proposed modifications. For new facilities or sources entering such an area, a careful review of the proposal will be required. Before approval may be granted, the decision-making process will include a public consultation specific to the new source or facility, involving all interested stakeholders. Approvals granted under these conditions will last for the normal 10-year period, with any requirements arising out of the NARS taking effect upon renewal of the approval.*

5.2 How is source audit to be achieved?

*The Ministry of the Environment will use a combination of criteria, guidelines, scientific and engineering judgment, and random sampling to verify information provided by proponents.*

5.3 How will facilities with existing control orders be handled?

*Facilities with existing control orders will be subject to the procedures for obtaining certificates of approval to operate in the same manner as other sources and thereby may*

*be required to update their emission controls. Until such time, the existing control order will remain in effect.*

5.4 There is no need to distinguish between existing and new facilities; each should be required to obtain certificates of approval under the new regulation.

5.5 There is a strong need to distinguish between existing and new facilities.

*The Ministry is of the opinion that both existing and proposed facilities should be striving towards the same degree of environmental control to ensure the achievement of CAP's goals. Accordingly, both existing and proposed facilities will need new certificates of approval to operate when they become subject to the regulation. The only distinctions will be that existing facilities will not be required to obtain certificates of approval to construct and that appropriate economic factors will be applied in the context of implementation.*

5.6 The conditions under which supplementary control would be allowed are unclear.

*Conditions are specified in the CAP Draft Regulation Appendix 8-5. Supplementary control has confirmed its usefulness as an auxiliary control mechanism under certain circumstances and will continue to be permitted provided these conditions are adhered to. Generally, where fuel switching is practised as part of the supplementary control program this will not be regarded as prima facie evidence of the existence of a process for reducing emissions under normal operating conditions.*

## 6. COST CONCERNS

Several submissions from industry expressed concern over the costs of complying with the proposals. There were numerous references to the National Task Force on Environment and the Economy and to the Ministry of the Environment's commitment to the concept of "sustainable development" embraced by this organization. Some industry submissions suggested that, in the short term, the costs of such proposals might discourage investment and freeze growth; and in the long term Ontario industries would be at a competitive disadvantage. This latter concern was mentioned in particular by those companies competing in U.S. or world-wide markets. The issue of free trade was mentioned by many discussants at meetings and in written submissions with emphasis being placed on the importance of maintaining "a level playing field" in the area of environmental controls.

Specific questions related to the lack of funds on the part of small companies to install pollution control equipment, with the suggestion that this could lead to a significant number of plant closures and loss of jobs. The question of tax breaks, grants and incentives was raised by several contributors, while others suggested that changes would require a longer phase-in period, even for large operations, to allow for self-financing. One submission suggested that Ontario should use this opportunity to examine the question of pollution rights and economic penalties.

The various concerns over cost led to a number of submissions offering suggestions pertaining to socio-economic studies. The process for undertaking socio-economic studies was discussed by several contributors. The concept of doing the study by way of a multi partite committee, with review by all stakeholders including the public, was supported.

A summary of comments/questions related to cost concerns has been provided below.

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6.1 A balance is needed between pollution control and economic growth.

*The Ministry will continue to monitor the effect of CAP on industry. Economic studies will continue during program development and implementation, to a plant-specific level wherever necessary.*

6.2 Ontario industry would be at a competitive disadvantage in world markets.

*The measures which have been proposed to deal with air emissions in Ontario under the Clean Air Program are consistent with those employed in various states of the U.S. The Ministry of the Environment is committed to preserving air quality in Ontario.*

*A study that compared Ontario's environmental regulations with those of other jurisdictions suggests that toxic regulations themselves would not bestow significant comparative disadvantage for any one jurisdiction. Regulatory agencies involved are copying liberally from each other and freely share information, resulting in comparative stringency and philosophy of environmental initiatives.*

*The Ministry will continue to monitor the environmental regulations of other jurisdictions to determine: if Ontario's environmental regulations are consistent with those of other jurisdictions; and if Ontario industry is at a competitive disadvantage.*

6.3 Small industrial operations may be forced out of business.

*The Ministry has produced comprehensive guidelines to aid business in complying with the regulation. It will continue to provide opportunities for all affected parties to comment on the program development. Class certificates of approval which specify generic requirements may be established for facilities such as dry-cleaners.' These efforts are intended to aid businesses in understanding the regulations; to help avoid duplication of effort; and reduce the costs in complying with the regulation.*

*Economic and financial considerations will be incorporated in the implementation of the program. Where necessary, detailed plant-specific economic studies will be conducted.*

## 7. PROCESS FOR CLASSIFYING SUBSTANCES OF CONCERN

Several groups and individuals expressed general support for the overall strategy of classifying contaminants and matching level of control with the environmental hazard of contaminants. There was general agreement with the Ministry's three-level system and that the levels should deal with high, medium and low hazard chemicals, respectively. However, there were several arguments made for different numbers of control levels.

For four-level systems, one suggestion was that the lowest concern level should include normal non-hazardous constituents of the air. Another suggestion was that this level be called "Below Current Regulatory Concern." At the other extreme some contributors thought that some contaminants were so harmful that they should be placed in a zero emissions category.

There were some suggestions for having a two-level system. In these suggestions Level 1 would contain high scoring pollutants, pollutants having global or regional impact and/or all toxic contaminants, unless sufficient data are available to establish that such controls are unnecessary to protect health and/or the environment. Level 2 would contain medium and low scoring pollutants.

Generally, non-governmental organizations and organizations experienced with health issues advocated the two-level control strategy outlined in the Discussion Paper. Most industry preferred more than three levels with separate categories for existing, new and altered facilities.

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Other, more specific comments included:

7.1 Process is arbitrary.
7.2 Process is massive.
7.3 Process is simplistic.
7.4 Process has not been adequately described.

*Since the publication of the Discussion Paper, the Ministry has changed the classification process considerably in order to incorporate comments made by contributors and produce an improved system. To make the implementation manageable and to focus on the most important air pollutants first, a CAP target list was developed for classification. Three methods of classification were then developed, using toxicity and environmental behaviour parameters as the basis of classification. The description of this system is included in Appendices 6-1 to 6-5 of the Draft Regulation of the Clean Air Program.*

7.5 Industry prefers three or more levels; advocacy groups prefer two.

*A three-level system will be used to provide environmentally sound control of high concern substances, substances with the potential to have some impacts under specific conditions, and nuisance contaminants.*

## 8. COMMUNITY STANDARD SETTING

The submissions contained various suggestions regarding the parameters to be used for setting standards. The reviewers ideas included establishing the ambient air quality criteria according to: environmental factors such as the greenhouse effect; the changing resistance of the human body; all routes of exposure including all environmental sources; the absolute mass or quantity of pollutants emitted; human health or the most sensitive species that could be adversely affected; scientific evidence and demonstrated environmental needs; the best toxicological, medical and other scientific data; the idea that exposure may not occur where sensitive animal or plant life is located; validated criteria; economics and political implications; cost/benefit analyses; land use; monitoring studies; and identification of the environmental hazards.

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8.1 On what basis should community air standards be set and what is the process which will be followed in setting new standards?

*The basis for standard setting is, and will continue to be, the most limiting adverse effect. Therefore, if a contaminant has a number of observed effects at different concentrations over a given time period, the value which will be selected for use as a standard over that time period will be the lowest value. In cases where different effects are noted over different time periods - for instance, a short-term odorous contaminant which also has a long-term effect on plants - separate values may be established for individual time periods.*

*The Ministry has drafted proposals for a new, comprehensive process to produce air quality standards and chemical-specific regulatory strategies. The proposals describe a three-tier approach to standard setting. Further details of this process can be obtained from Appendix 6-6 of the draft regulation of the Clean Air Program.*

8.2 Risk assessment should be the basis of all standard setting.

*As indicated above, the Ministry of the Environment sets standards based on the lowest effect level, where possible. However, in the case of contaminants with no threshold level of effect, i.e., even small doses have the potential for effects, the Ministry has used risk-assessment approaches. The Ministry's proposals for restructuring the air standard setting*

*process will permit a rigorous analysis of all of the data available in the standard setting process - such data will include risk assessment.*

8.3 The government standard setting process is far too slow.

*Industry groups and interested parties both indicated that they want to be involved in the standard setting process. Through ACES, the public, industry and other agencies will be consulted on proposed standards and standard development procedures. In addition, measures have been taken to improve the quality and speed of the existing standard setting process. These measures will be incorporated into the Draft Regulation.*

8.4 Industry cannot afford to assist in standard setting.

*Both the public and industry will be able to contribute to all aspects of the standard setting process. In the case of large multinational industries, the type of material used in standard setting is routinely gathered for regulatory purposes in other jurisdictions or for other reasons such as process control and worker safety. It is anticipated that such industries will readily share such information where it is required. For smaller industries with no access to such information internally or through their suppliers, the Ministry of the Environment will provide technical information for setting standards.*

## 9. CONTROL TECHNOLOGY REQUIREMENTS

The Ministry of the Environment outlined several options for the implementation of control technology. The main concept proposed was to scale the required pollution control to the environmental hazard presented by the contaminants emitted. Two alternatives were given, one in which there were three categories of control stringency, and one with two levels of control. Questions and comments on the overall concept and on the specific categories were received.

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9.1 The amount of contaminants being emitted should be a factor in determining the level of control.

*One of the basic principles of the Clean Air Program is that emissions of contaminants should be controlled with appropriate technology. Very small sources - defined as those sources falling within the Small Source Designation Limits (see Appendix 5-1), experimental facilities falling within certain limits (see Appendix 4-3) and sources covered under codes of practice (see Appendix 5-2) will not be required to apply control technology. Above the Small Source Designation Limit, there exists the potential for adverse effects and quantity*

*of emission will not be used as a factor in deciding Level of Concern and hence Level of Control.*

9.2 There should be a "zero emissions" category, i.e., the lowest achievable emission rate may be insufficient to adequately protect the environment.

*For certain contaminants where substitutes are available or where the risks associated with them are so high or widespread, the required emission rate may indeed be a zero level. PCB's, which have been widely used since the 1960s, primarily as a coolant in the electrical industry, provide an example of a chemical which is currently being phased out of use owing to its effects and replaced by substitute materials.*

9.3 Level 1 Control may not be achievable - what is the regulatory impact on the proponent?

*By definition, Level 1 Control limits emissions to concentrations that have been committed to for similar processes. In practice, a "top-down analysis" of alternative technologies used elsewhere will be undertaken as specified in Appendices 7-2 and 7-3. It will be the responsibility of proponents in this analysis to examine alternatives in descending order of stringency, identifying those which may not be feasible. In this case, proponents will be required to identify the emissions of various contaminants of multiple contaminant emissions and justify the final choice. For existing plants where economic hardship is encountered in installing the appropriate control technology, the Ministry will conduct detailed plant-specific studies to permit staged implementation of emission controls under a control order.*

9.4 The economic criteria for establishing Level 2 Control levels must be spelled out.

*The emission limitations for a number of contaminants will be established in the regulation at the time of filing. For substances and processes not listed, the Ministry has identified a methodology for undertaking evaluations. This methodology (Appendix 7-2) will be based on the general principles used for assessing BATEA for the Municipal/Industrial Strategy for Abatement (MISA). The results of such evaluations will be incorporated into the emission limitation lists.*

9.5 There is no need for the regulation to specifically require Level 3 Control of emissions if air quality standards are being met.

*Under the proposed regulation, the Ministry will be using control technology as the "first line of defence". Therefore, even if air quality standards are being achieved, emission control will still be required.*

9.6 Level 1 sources will constantly be required to upgrade control technology.

*The Ministry of the Environment's goal, through CAP, is the virtual elimination of air toxics in Ontario in the emissions of chemicals to the atmosphere to the greatest extent possible; thereby, protecting and enhancing human health, the state of our waterways and croplands, and improving the quality of the environment in Ontario. To accomplish this, all sources will be required to review their emissions every 10 years and implement changes as required. In exceptional circumstances, where valid evidence exists, sources may required to undertake changes within the 10-year period (see Overview Document Section 3.1.1).*

9.7 Ministry assistance requested in encouraging development of control technology.

*To encourage development of technological support for programs such as the Clean Air Program, Ontario will spend $30 million over the next five years to stimulate research into new products and processes that protect the environment. The Environmental Technologies Program (ETP) will fund up to 50% of projects proposed by Canadian companies, universities, research organizations, municipalities, conservation authorities or public interest groups, to a maximum of $500,000 per year for a maximum of three years. The money is intended to help cover costs of researching, developing, and testing the product or process.*

## 10. DETERMINATION OF ALLOWABLE EMISSION LIMITS AND OPERATIONAL PROCEDURES

Included in some of the submissions were concerns pertaining to guidelines for conducting a technology review. Questions asked included: how would limits be determined; which jurisdictions should be included in a world-wide information search; and in what format would the emission limit have to be presented?

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10.1 Guidelines are required for technology review to determine the maximum allowable emission rate for each contaminant and for each process.

*Guidelines are provided which will enable proponents to group contaminants for the purposes of technology review (see: Appendix 7-2 of the draft Clean Air Program).*

10.2 Support and opposition was expressed for each of the five options (and for hybrid options) for deriving emission limits identified in the Discussion Paper (proponent-defined emission limits; Ministry defined limits; limits produced through a consultative process (similar to MISA); fixed percentage reductions on process/industry-specific bases; and Ministry of the Environment mandated control technologies).

*Following examination of the responses, the most satisfactory method appears to be a combination of Ministry of the Environment standards, and reviews undertaken by proponents, where no standard has been developed.*

10.3 The "bubble concept" should be used for deriving a cumulative loading for an airshed.

*Consideration will be given to new approaches, new procedures and methods, and to achieve the environmental objectives for non-toxic contaminants. The feasibility of applying economic and fiscal measures such as emissions trading within defined areas (bubble concept) to assist in the achievement of prescribed environmental objectives will be reviewed.*

10.4 Why should both emission limits and ambient standards have to be satisfied?

*The emission limits for a facility will be established in line with the goal of the program to virtually eliminate toxics in the environment. Ambient standards are set to ensure that all the sources of contaminants collectively do not reach a level where an adverse effect might occur. Both are required to achieve the aims of the proposed program.*

10.5 "Offsets" should be granted to companies in industrialized areas to allow for continued growth.

*In areas where air quality is declared by the Ministry to be marginal, tighter controls may be required of all sources under Non-Attainment Remedial Strategies (NARS). The concept of offsets will be reviewed further to determine their suitability as an environmental protection tool.*

10.6 Emission rate determination is a concern.

*Emission rates will be determined in terms of productive capacity (e.g., a certain contaminant emission rate per unit of production) but will be stated on certificates of approval in contaminant amount emitted in a specific time period.*

10.7 Routine start-ups, shut-downs and emergencies should be exempted from strict compliance with the regulation.

*Emergency contingency plans and equipment such as bypass stacks and vents should be designed to ensure compliance with the air quality standards at all times. Catastrophic failures and malfunctions are the subject of Part IX of the Environmental Protection Act. Routine start-ups and shut-downs constitute part of the operational process for the facility and, therefore, cannot be granted an exemption from control requirements.*

## 11. MODELLING

The question of how the modelling package would be included in the legislation was frequently commented on. Some groups felt that it would be difficult to make changes to the models if they are included in the regulation. On the other hand, some industries stated that the use of diskettes in the regulation would make it too easy for the Ministry to alter the model code without consulting the users of the models. It was suggested that the Ministry of the Environment provide a recommended model, but users be allowed to choose other models when submitting material for a certificate of approval. Some industries suggested that modelling be used only as a guideline and not to reject a certificate of approval.

Several contributors indicated that if ambient air monitoring indicates lower concentrations than predicted by the proposed modelling package, then there should be a mechanism whereby the monitoring data take precedence.

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11.1 Models are too complex.
11.2 Models are simplistic.
11.3 Models are too conservative.

*The models in the proposed regulation will use the most recent scientific approaches; they will incorporate atmospheric physics and chemistry in a validated fashion and yet remain practical for routine regulatory use.*

11.4 The choice of model should be up to the proponent.

*Proponents can use their own models. However, in evaluating the results, the Ministry will use the modelling package outlined in the regulation. If the proponents' results are lower, they will have to justify why their modelling approach is more accurate.*

11.5 Monitored data should take precedence over modelling results.

*Both monitored data and modelled data will be used judiciously. However, monitors frequently do not capture maximum ambient levels or incorporate the influence of a new or modified source. This is not the case for modelled data.*

11.6 Support and criticism of physical modelling.

*There are certain conditions under which mathematical modelling will produce an overly conservative result. Proponents will have the option of choosing either the conservative modelling approach or physical modelling under these conditions. Further elaboration is*

*provided as part of the modelling package of the proposed regulation. (Appendix 8 of the Draft Regulation of the Clean Air Program.)*

11.7 Multisource modelling using simultaneous maximum emissions from each source is questioned as being unrealistic.

*Where maximum concentrations can occur simultaneously, the Ministry assumes maximum emission rates because these constitute the air hazard potential of the facilities.*

11.8 Many questions on airshed modelling and the availability of emission data were submitted.

*To ensure that ambient air quality standards are met, all sources must be considered. The Ministry will initiate a source registry and emission inventory for the compounds listed in Appendix 2 of the draft Clean Air Program. Appendix 8 of the draft Clean Air Program describes how these emission data would be coupled with monitoring data to estimate ambient air loadings.*

11.9 Guidelines for modelling are required.
11.10 Many questions on model specifics.

*Detailed guidelines will be supplied to assist proponents in undertaking the required modelling and the Ministry will consider sponsoring workshops when the Regulation is filed. In addition, the Ministry welcomes continuing dialogue on the subject of modelling in order to ensure that the reference models are state-of-the-art.*

## 12. CERTIFICATES OF APPROVAL

Several proposals were outlined in the CAP document concerning the certificate of approval process. This is defined in the Environmental Protection Act and uses the calculations and standards contained in Regulation 308 and its appendices.

The following major changes were suggested:

- use of a two-part certificate of approval, with operating requirements in addition to the existing equipment requirements;
- making certificates to operate renewable, with a suggested re-examination every 10 years from the date of original approval and at subsequent 10-year intervals;
- permitting directors to request more frequent reviews under special circumstances;

- including monitoring requirements on certificates of approval to operate.

A number of industry-based groups raised the issue of the time that was currently required to obtain a certificate of approval to operate.

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12.1 Delays in obtaining the certificate of approval will be lengthened beyond what they are now.

*The Ministry is reducing the amount of time between applying for, and receiving, a certificate of approval. In the past year, the Ministry has started to address this concern through the addition of staff to the Approvals Branch. With the implementation of a revised standard setting process as outlined in Appendix 6-6, it is anticipated that one of the principal reasons for delay will also be eliminated. The use of a generic certificate of approval, as outlined in Appendix 4-2, is also expected to lessen the time requirements for specific types of approval. Other causes of delay in the present system, such as inadequately documented applications, will be addressed by improved specifications for the type of data required in order that a review can be initiated.*

12.2 Small sources should be exempt from certificates of approval.

*Sources falling within the Small Source Designation Limits will be not be required to obtain a certificate of approval. However, they may still be subject to registration requirements and should the Ministry decide that controls are justified to protect community air quality, these will be required under separate measures (see CAP Draft Regulation Overview Section 5.2.4 Non-Attainment Remedial Strategies (NARS) and Appendix 6-6).*

12.3 Decentralization of the approval process recommended.

*The Ministry has already decentralized certain approval functions. For some types of application under the Clean Air Program, an extension of this approach is under consideration. Responsibility for handling applications for certificates of approval will remain at the local Ministry office under the proposals. The decision as to whether an application is complete in terms of information supplied (see Appendix 4-1 Section 4-4) will also be undertaken at the local Ministry offices.*

12.4 Review period (i.e., lifetime of certificates of approval) should be 20 years; perhaps renewal should only be required in cases where technological advances have occurred.
12.5 Review period should be no more than 5 years.

*The Ministry has assessed the review period and concluded that renewals should occur on a 10-year basis.*

12.6 Both parts of certificates of approval should be issued simultaneously.

*Proponents will be required to submit an application for a two-part certificate of approval, providing adequate information to the Ministry for construction and operation of the control technology. The Ministry will deal with the applications as expeditiously as possible.*

12.7 Exemptions requested for experimental facilities, emergency release systems, emissions resulting from control of work environments, road construction.

*Specific sources, such as road construction, fire training, etc., will be regulated through Codes of Practice. Adherence to these codes will be required through specific provisions. Emergency release systems and experimental facilities (except for specific small laboratory facilities) will require appropriate controls and will be subject to the full approval process.*

## 13. CONTINUOUS PROCESS/EMISSION MONITORING AND AMBIENT MONITORING

In the CAP proposals, various monitoring programs were recommended to establish compliance with the regulation and associated standards. For LAER sources, the installation of continuous monitoring systems (with recording abilities), which reflect process operating conditions and/or maintenance of the emission controls, was recommended, together with stack testing within six months of startup and at subsequent intervals of not more than 12 months. In the case of BACT-EA sources, continuous monitors were again suggested, with stack testing within six months of startup and subsequently at the Director's discretion at intervals of 12 months or more.

The subject of continuous process monitoring was one in which industrial representatives were united in their general opposition, and public interest groups, members of the public and government agencies were united in their general support. Opposition to the concept of requiring such monitoring of LAER and BACT-EA sources was based on a number of grounds including cost, reliability and amount of downtime, impracticality, and lack of necessity. Support for the concept indicated that such monitoring requirements were consistent with environmental needs, and should not be dependent upon cost factors.

Suggestions on compliance requirements for continuous emission monitoring were also clearly divided between the public and industry groups. Public comments suggested a set format for reporting requirements; records to be available to the Ministry within set time periods (three months was indicated); computerized inventories; placing operating criteria on certificates of approval and random site inspection and verification of equipment. Industrial representatives reflected the view that the equipment is unreliable and expressed

the opinion that compliance requirements should be very liberal, and that such things as equipment breakdown and malfunction should be tolerated.

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13.1 Continuous emission monitoring (CEM) is costly, impractical and unnecessary.
13.2 The criteria for CEM are unclear.

*In its proposals, the Ministry did not specifically require continuous monitoring of emissions. The Discussion Paper referred to monitoring indicative of the process. In some instances, this may include CEM, which the Ministry believes is effective and is the preferred route, if available. Monitoring is required to confirm day-to-day compliance of facilities.*

*The Discussion Paper stated that continuous monitoring of processes would be required for all Level 1 (LAER) and Level 2 (BACT) sources. The Ministry is still of the opinion that such monitoring is necessary for contaminants in these two levels. More specific protocols have been produced in association with the Draft Regulation. (Appendices 9-1 and 9-2 of the Draft Regulation of the Clean Air Program.)*

13.3 Ambient monitoring should not be required where Level 1 controls have been installed.

*The Ministry is concerned not only with the design of control technology for emissions to the atmosphere but also with its proven operation and potential effects on community ambient air. Ambient monitoring, along with continuous emission monitoring of process parameters, will be required to provide this information.*

13.4 Ambient monitoring should be done by MOE through redesigned monitoring networks.

*The primary objective of the Ontario air monitoring network is to provide data on ambient air quality distinct from source-specific monitoring. The existing Ministry network monitors polynuclear aromatic hydrocarbons (PAH), volatile organic hydrocarbons (VOC) and dioxins throughout the province. The Ministry intends to enhance its monitoring network by expanding its mobile monitoring capacity and by increasing the number of monitors for organic contaminants. There are no plans to increase site-specific monitoring - this is regarded as being solely the responsibility of emitters.*

## 14. VISIBLE EMISSIONS

The Ministry of the Environment has proposed to adopt the same procedures as those specified by the U.S. Environmental Protection Agency for determining the opacity of visible emissions. Most of the comments on this subject were received from industry. Generally, there appeared to be little objection to the plan, but there were some specific concerns.

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14.1 Objection to the right to prosecute by trained members of the general public because of lack of objectivity.

*Any trained observer, whether employed by the Ministry of the Environment or not, must be granted the same standing in terms of prosecutions. Courses to train observers in visible emissions are open to Ministry and non-Ministry personnel alike and similar training courses are available in the United States.*

14.2 Arguments for additional leniency provisions since visible emissions are generally of short duration, have little impact on air quality, and are often unavoidable.

*The proposed measures to deal with visible emissions contain averaging provisions. While it is true that violations of opacity limits may have a minimal impact, they are indicative of poor operating practice or poor equipment maintenance, and show the potential for exceedances of other criteria.*

14.3 Continuous opacity monitors should not be required as extensively as proposed, but should only be required through specific Control Orders.

*Continuous opacity monitors, like other continuous emission monitors, reflect the general performance of pollution control equipment. Therefore, they should be required.*

## 15. *De minimis* (SMALL SOURCE DESIGNATION LIMITS)

Generally, regulated industries indicated strong support for the "*de minimis*" concept, while non-industrial commentators expressed concern over the application of it.

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15.1 "*de minimis*" depends on subjective judgment.

*The criteria for establishing Small Source Designation Limits included in the Draft Regulation are based on criteria used in other jurisdictions and the existing Ontario Standard, together with an emissions cap (see Appendix 5-1 "Small Source Designation Limits").*

15.2 Rather than one *de minimis* level, several *de minimis* levels could be used to exempt from various requirements, e.g., modelling, stack testing, certificate of approval renewals, ambient monitoring etc.

*The Ministry has considered this aspect carefully and decided that the Small Source Designation Limit consideration should only be used for emission control.*

15.3 A *de minimis* level based on concentration in the exhaust equal to 100 times the air quality standard is too high.

15.4 A *de minimis* level based on concentration in the exhaust equal to 100 times the air quality standard is too low.

*The Ministry has produced Small Source Designation Limits for a number of contaminants using a different technique from the one outlined in the Discussion Document. The list and the methodology used are to be found in Appendix 5-2 of the Draft Regulation of the Clean Air Program.*